5

10

15

20

25

30

35

## CLEAN AMENDED SHEET

US0322294

US-A-1753502 discloses a pneumatic dust collector. The dust collector consists of a cyclone having a tangentially arranged gas-solids inlet opening. From the gas outlet conduit a stem extends to a disk positioned below the gas outlet opening.

EP-A-052042 discloses a swirl tube separator provided with anti-erosion means fixed on the interior wall of the housing of the separators.

US-A-4795561 discloses a cyclone separator provided with a tangential arranged gas-solids inlet, a cylindrical housing with a closed bottom and a valve at the bottom of the cylindrical housing. The valve is fixed to a pin. The opposite end of this pin is located in the gas outlet conduit present at the upper end of the cylindrical housing. The pin thus mechanically positions the valve and the movement of the valve within the separator.

US-A-4072481 discloses a device for separating a gas from a mixture of a liquid, solids and gas. The inlet for the mixture is tangential. A so-called stand provided with a plate at its upper end is present at some distance below the outlet for the gaseous phase.

US-A-4,795,561 discloses a cyclomic separator for use in fluid flow systems that comprises a housing containing an inlet, a moveable shroud, and at least one variable area outlet.

The object of the present invention is to provide a swirl tube separator having improved separation efficiency and which has a lesser tendency to operate with a non-symmetric vortex.

## Summary of invention

The invention is directed to the following swirl tube separator. Swirl tube separator for separating

## CLEAN AMENDED SHEET

solids from a gas-solid containing feed comprising a tubular housing, an axial inlet for introducing a gas-solids mixture at one end of said housing, wherein said axial inlet for introducing the gas-solids mixture is provided with swirl imparting means, a solids outlet opening at the opposite end of said housing, and a co-